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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/087,905	03/05/2002	Robert L. Campbell	41551	7713

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EXAMINER	
DEJONG, ERIC S	

ART UNIT	PAPER NUMBER
1631	

DATE MAILED: 07/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/087,905	CAMPBELL ET AL.	
	Examiner	Art Unit	
	Eric S. DeJong	1631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 October 2005 and 16 May 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *16,17,31-40,55,56,59-73,113-118,120-122,124-126,128 and 129* is/are pending in the application.

4a) Of the above claim(s) *16,17,31-40,55,56,59-73 and 113-118* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *120-122, 124-126, 128, and 129* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *04/28/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED OFFICE ACTION

Claim Rejections - 35 USC § 102

The rejection of claims 120-122, 124-126, 128 and 129 under 35 USC § 102(b) as being anticipated by O'Shea et al. is withdrawn in view of amendments made to the instant claims.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 120-122 and128 are rejected under 35 U.S.C. 102(b) as being anticipated by Sen.

The instant claims are drawn to an apparatus for identifying a culture medium component comprising a means for identifying a predetermined set of test compounds, means for determining at least one parameter for each test compound, a means for performing a space-filling design of the parameterized predetermined set of test compounds, a means for constructing a first test library, a means for deriving a quantitative relationship between a measured indicia of a property to a least one parameter of a plurality of first test compounds, a means for identifying a candidate library containing a plurality of candidate culture media, wherein said candidate culture medium contains a respective test compound that is not in said first test library, and a

means for identifying a second test library containing culture media having a measured indicia that satisfies said test requirement.

[Claim 120-122 and 128]: Sen sets forth a method and related apparatuses for the optimization of the fermentation media for maximization of surfactin production (See Sen Abstract), wherein the carbon source (glucose), the nitrogen source (ammonium nitrate), and the mineral salts ferrous and manganous sulphates were the critical components of the medium optimized. A 2^4 full factorial central composite experimental design was followed by multi-stage Monte-Carlo optimization was used in the design of experiments performed while allowing possible interactions between the four components (see Sen, page 264, col. 1, line 38 through page 265, col. 2, line 43). Surfactin was assayed by an indirect method which involved the measurement of surface tensions of diluted broth samples (see Sen, page 265, col. 1, lines 2035). Optimum values for the tested variables given maximal production of surfactant were determined from multiple rounds of media cultures that included model fitting in the form of Analysis of Variance (ANOVA), which involved developing a regression equation in accordance to Eq. (1) as well as deriving an empirical relationship in accordance with Eq. (2) (see page 265, col. 2, lines 1 through page 267, col. 2, line 15) . Sen further discloses the determination of the optimal concentration of components to arrive at a predicted media component, specifically the exact media formulation consisting of a mixture of glucose, ammonium nitrate, and ferrous and manganous sulphates (see page 269, col. 2, lines 16-31).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 120-122, 124-126, 128 and 129 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sen.

The instant claims are drawn to computer program product for identifying a culture medium component comprising a means for identifying a predetermined set of test compounds, means for determining at least one parameter for each test compound, a means for performing a space-filling design of the parameterized predetermined set of test compounds, a means for constructing a first test library, a means for deriving a quantitative relationship between a measured indicia of a property to a least one parameter of a plurality of first test compounds, a means for identifying a candidate library containing a plurality of candidate culture media, wherein said candidate culture medium contains a respective test compound that is not in said first test library, and a means for identifying a second test library containing culture media having a measured indicia that satisfies said test requirement.

As discussed above, Sen sets forth the above described methods and related systems for the optimization of fermentation media for maximization of surfactin production. However, Sen does not fairly teach or disclose a computer product

embodying a program of instruction executable for performing the disclosed method steps of Sen.

Regarding computer-related invention, the MPEP §2106(VI) states:

As is the case for inventions in any field of technology, assessment of a claimed computer-related invention for compliance with 35 U.S.C. 102 and 103 begins with a comparison of the claimed subject matter to what is known in the prior art. If no differences are found between the claimed invention and the prior art, the claimed invention lacks novelty and is to be rejected by Office personnel under 35 U.S.C. 102. Once distinctions are identified between the claimed invention and the prior art, those distinctions must be assessed and resolved in light of the knowledge possessed by a person of ordinary skill in the art. Against this backdrop, one must determine whether the invention would have been obvious at the time the invention was made. If not, the claimed invention satisfies 35 U.S.C. 103. Factors and considerations dictated by law governing 35 U.S.C. 103 apply without modification to computer-related inventions. Moreover, merely using a computer to automate a known process does not by itself impart nonobviousness to the invention. See In re Venner, 262 F.2d 91, 95, 120 USPQ 193, 194 (CCPA 1958). See also Dann v. Johnston, 425 U.S. 219, 227-30, 189 USPQ 257, 261 (1976).

Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains to automate the disclosed methods for the optimization of fermentation media for maximization of surfactin production using computer readable medium holding computer readable code, since reliance on a computer to automate a known process does not by itself impart nonobviousness.

Response to Arguments

Applicant's arguments with respect to claims 120-122, 124-126, 128 and 129 have been considered but are moot in view of the new grounds of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric S. DeJong whose telephone number is (571) 272-6099. The examiner can normally be reached on 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Wang can be reached on (571) 272-0811. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

EDJ EDJ

ANDREW WANG
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